

Spring 5-3-2010

500 Friends and Still Friending: The Relationship between Facebook and College Students' Social Experiences

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Running head: FACEBOOK, COLLEGE, SOCIAL EXPERIENCES

500 Friends and Still Friending: The Relationship between Facebook and College

Students' Social Experiences

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Date Submitted: 05/03/10

Abstract

I conducted two studies that investigated Facebook and its relationship to college students' social experiences. The first study focused on the associations between Facebook use and homesickness and friendsickness, while the second study explored the Facebook status and its relationship to the personality characteristics shyness, loneliness and a sense of belonging. Participants included 220 college students. Higher levels of Facebook use were related to higher levels of friendsickness and a greater connection to the Facebook status was related to higher levels of loneliness and shyness. Overall, Facebook had a negative relationship with college students' social experiences.

Study One

The transition to college is a major event in a teenager's life. Freshmen must adjust to a plethora of new situations and experiences such as the academic setting and academic pressures of the institution, new living arrangements as well as new interests and activities. In addition, two of biggest adjustments are coping with changing relationships with family and friends. College students are faced with the challenge of leaving old friends behind and creating new social support systems as well as adjusting to leaving home and the new familial relations that result. Two phenomena that occur during the transition to college related to leaving friends and family behind are homesickness and friendsickness.

Homesickness

Homesickness, as defined by Watt and Badger (2009), is "distress caused by actual or anticipated separation from familiar or loved people or places" (p. 516). Homesickness is a very common phenomenon experienced by over half of the general population. Ten to 15% of homesick individuals report that their homesickness affects their daily activity. In particular, homesickness can have numerous negative effects on college students. Burt (1993) found, for example, that homesickness interfered with concentration and Fisher and Hood (1987) found that homesickness was correlated with higher levels of absentmindedness. Homesickness is also related to high levels of anxiety and depression. It is interesting to note that anxiety tends to be a predictor of homesickness, while depression is a direct effect of being homesick (Verschuur, Eurelings-Bonteckoe & Spinhoven, 2004). Homesick individuals tend to report lower health, mood and cognitive function. In addition, people who experience homesickness

report that they have difficulties making friends as well as suffering from school phobia (Van Tilburg, Vingerhoets & Van Heck, 1999). Physical effects of homesickness include headaches, stomachaches, loss of appetite and sleep disturbance (Watt & Badger, 2009). Lastly, Thuber and Seligman (1999) emphasized that persistent and invasive thoughts of home are characteristics of homesickness.

Stroebe, van Vliet, Hewstone and Willis (2002) proposed that homesickness is similar to the experience of grief. During homesickness, individuals temporarily lose people that are very important to them. Following this logic, Stroebe et al. (2002) adopted the dual process of coping with bereavement model (Stroebe & Schut, 1987) to explain the theoretical underpinnings of homesickness. According to this theory, two factors play a role in homesickness: loss-orientation and restoration-orientation. Loss-orientation involves missing family and friends while restoration-orientation involves individuals adjusting to their new environment. Vingerhoets (2005) also thought that homesickness had two components, which he referred to as “cat type” and “dog type.” “Cat type” homesickness was categorized as a strong attachment to the environment and “dog type” homesickness involved a strong attachment to people in a particular environment. This paper will focus primarily on loss-orientation and dog type homesickness, both of which relate to missing people due to physical separation from them.

A recent study by Watt and Badger (2009) focused on the missing-people component of homesickness and found that the need to belong is a cause of homesickness. Belonging is the innate human desire to have stable relationships with other people. The need to belong leads individuals to protect their social bonds and as a result changing location causes distress and homesickness. Homesickness also occurs

upon arrival in a new location, particularly if individuals do not feel that their belongingness needs are satisfied or are going to be satisfied. In addition, Watt and Badger (2009) noted that the reverse is true and individuals who felt accepted and like they belonged in their new environment were less homesick.

Friendsickness

An extension of homesickness, friendsickness is defined as a feeling of great loss for pre-college friendships (Paul & Brier, 2001). Friendsickness inhibits students from developing new friends and social support systems in college, which is the key to adjusting to college life. Aspinwall and Taylor (1992), for example, found that having social support in college was associated with greater levels of self-esteem, optimism and control. When students reported experiencing difficulty in the college transition, these students almost always indicated that they were disappointed in their friendships and social interactions (Hirsch, 1980). Swenson, Nordstrom and Heister (2008) found that during the first few weeks of college, relying on a high school best friend is beneficial. They are able to give emotional and social support as well as provide an individual with someone to converse with openly and frankly. After the first couple of weeks, however, making new college friendships is essential in order to fully adjust to the college environment. In addition, the way that students approach leaving behind old best friends and creating new social groups in college greatly influences their social experiences and adjustment in college. Paul and Kelleher (1995), for instance, found that college students who were more concerned about making new friends in college than losing old friendships were more likely to rely on new college friends as their support system and, as a result, tended to have an easier time adjusting. As soon as a person leaves for

college, the dynamic of high school friendships changes and this is a great source of distress for many students. Instead of looking forward and attempting to create new relationships in college, students who experience friendsickness are primarily concerned with maintaining their relationships at home. Paul and Brier (2001) concluded that friendsickness led to poorer college adjustment as well as increased loneliness and lower self-confidence about making friends and being socially accepted in college. Students who took a more forward-looking approach, however, were concerned about making new friends and had a much smoother adjustment to college. Ishler (2004) traced friendsickness by having freshmen keep journals and confirmed that it has negative effects on students. The study found that friendsickness could lead to feelings of fear and resentment as well as cause students not to participate in their studies or social activities. Friendsick students felt they were betraying their high school friends by attempting to make new friends in college. As a result, they socially isolated themselves by spending significant amounts of time trying to keep in contact with their friends back home. Many students also considered transferring to a college closer to their high school friends or dropping out of college completely. Ishler (2004) did find, though, that while almost all freshmen experience some degree of friendsickness in their first semester, the level greatly decreased during their second semester.

Social Networking and Facebook

Social networking sites, in particular Facebook, have become a huge phenomenon, particularly among college students. Facebook was founded in February 2004 as a social networking site for college students and in 2005, a high school version of Facebook was created. In 2006, commercial organizations started to use Facebook to

promote their businesses (Ellison, Steinfield & Lampe, 2007). Currently there are more than 300 million active users and the fastest growing demographic is individuals 35 to 54 years of age (Corbett, 2009). Half of Facebook users log onto Facebook daily and on average spend about 22 minutes on the site (Corbett, 2009). Twenty-five percent of Facebook users, however, are college students; in fact the largest demographic is 18 to 24 year olds, accounting for 53.8% of Facebook users (Corbett, 2009). In addition, as of February 2008, Facebook is the most popular website among college students.

It is interesting to investigate Facebook in the context of homesickness and friendsickness because of the way the site has revolutionized individuals' communication with family and friends, particularly physically distant family and friends. Facebook allows users to create a profile, search for friends, send and receive messages, upload photos, update daily statuses as well as create and join events. In 2008, Facebook added a chat feature that allows members who happen to be on Facebook simultaneously to instant message with each other. These features allow students to be connected at all times to their family and friends back home, while creating a new social support system and adjusting to life in college. While Facebook can be used to meet new people, college students primarily use Facebook for social interaction with people with whom they already have an offline relationship (Pempek, Yermolayeva & Calvert, 2009). This study will explore how an easily accessible online connection to friends and family at home is associated with college students' experiences of homesickness and friendsickness.

Previous research on Facebook has studied personality and motivations associated with Facebook use. Ross et al. (2009), for example, found that motivation to communicate was essential in Facebook use and that personality factors did not play a big

role in determining what types of individuals used Facebook. Other studies have explored the primary uses of Facebook. Joinson (2008) discovered that social connection, social network surfing, shared identities and status updating are the most common reasons to use Facebook. Privacy concerns and trust in the context of Facebook have also been researched. Dwyer, Hiltz and Passenni (2007) found that even if a site has poor privacy, individuals still felt comfortable enough to develop online relationships. Gross and Acquisti (2005) studied the risk associated with posting personal information on Facebook. Research has also been conducted on student-teacher dynamics and how professors' Facebook profiles affect their students' image of them (Hewit & Forte, 2006). Golder, Wilkinson and Huberman (2006) even studied the patterns of Facebook use during the day, as well as seasonal variations.

Less research, however, has been conducted on the types of relationship that are created and maintained through Facebook and the effect the site has on already well-established offline friends who use Facebook regularly to communicate. Ellison, Steinfield and Lampe (2007) conducted one study that investigated the concept of social capital and its connection to Facebook. Social capital is defined as "resources accumulated through the relationships among people" (Ellison et al., 2007, p. 1145). These resources provide many positive benefits for individuals such as helpful information, important social connections and even increased self-esteem. There are three distinct types of social capital: bonding, bridging and maintained, and Ellison et al. (2007) found that Facebook plays a key role in the formation and maintenance of all three. Bonding social capital is found in extremely close and emotional relationships, such as a bond an individual might form with their family or best friend. Bridging social

capital refers to “weak ties” or relationships where the individuals are not emotionally close but are still able to provide new information and perspectives. Maintained social capital “is the ability to maintain valuable connections as one progresses through life changes” (Ellison et al., 2007, p.1146). For example, a measure of maintained capital would be retaining a connection to a high school network after physically separating from it during the transition to college. As Paul and Brier (2001) suggest, friendsickness often occurs during the transition to college. Ellison et al. (2007) noted that maintained social capital, which allows students to stay in contact with high school networks, might decrease feelings of friendsickness, and they encouraged further exploration of this topic.

The Present Study

The current study will expand upon Ellison’s et al. (2007) brief exploration of friendsickness and look specifically at the role Facebook plays in homesickness and friendsickness. It will also extend Watt and Badger’s research on a sense of belonging and homesickness. In particular, this study will look at an individual’s sense of belonging in the college environment and its relationship to homesickness and Facebook use.

I tested two hypotheses. The first is that high levels of Facebook intensity, which is a measure of participants’ engagement with Facebook activities as well as emotional attachment to the website, will be correlated with high levels of homesickness. Homesickness is primarily related to distress caused by physical separation and Facebook may not be adequate compensation for physical distance. In fact, having constant contact with family and friends back home but being absent from the home environment may cause an individual to long for home even more. Homesickness, however, will be moderated by an individual’s sense of belonging in the college environment. If

individuals believe they have a high sense of belonging in college, levels of homesickness, despite Facebook intensity, may be reduced. If individuals with high levels of Facebook intensity feel that they have a low sense of belonging in college, levels of homesickness may be even higher.

The second hypothesis is that high levels of Facebook intensity will be correlated with lower levels of friendsickness. Friendsickness is focused primarily on a concern about loss of pre-college friends and does not involve an environmental component. Facebook provides a way for college students to easily and frequently communicate with friends at home, reducing students' concern about loss of social connections at home. In addition, this constant communication will allow students to explore their new environment and make friends without feeling guilty about abandoning high school friends or being abandoned themselves.

Method

Participants

Participants consisted of 106 students, freshmen—50 (47.2%) and sophomore—56 (52.8%), from small college and universities across the United States. There were 74 females (69.8%) and 31 (29.2%) males (one person did not answer the question). Eighty-two (80.4%) of the students were white, five participants were African American (4.9%), nine participants were Asian or Asian American (8.8%), nine participants were Hispanic or Latino (8.8%), four participants were biracial or multiracial (3.9%) and one participant (1%) was a Hawaiian Native or Pacific Islander. Fifty-six (52.8%) of the participants were from Macalester College and 48 (45.3%) of the participants were from other colleges and universities (two individuals did not answer the question). The majority of

Macalester students were from the Macalester College Introduction to Psychology participant pool. I recruited only underclassmen because friendsickness and homesickness tend to decrease as a student becomes more adjusted to college. In fact, in terms of friendsickness, there is even a significant decrease from first semester to second semester of freshmen year (Ishler, 2004).

Materials

Demographic Questions

Participants answered six demographic questions. The questions addressed participants' age, race, year in school, whether they attend Macalester College, the approximate size of the student body at their college or university, as well as the distance of their home from their college or university.

Homesickness Scale

The Utrecht homesickness scale was developed by Stroebe et al. (2002) to study homesickness between two different cultures, the Netherlands and the UK (See Appendix A). Based on a series of pilot studies, Stroebe et al. (2002) identified five main factors of homesickness: missing family, loneliness, missing friends, adjustment difficulties and ruminations about home. The questionnaire is comprised of 20 questions, four questions about each of the five factors. Participants are asked to rate the statements based on the extent to which they have experienced that feeling in the past four weeks. Statements such as "longing for acquaintances" or "searching for familiar faces," for example, represent missing friends while "feeling unloved" or "feeling isolated from the rest of the world" represent loneliness. A five-point Likert scale is used to rate the items (1 = *not*, 2 = *weak*, 3 = *moderate*, 4 = *strong*, 5 = *very strong*); higher scores represent higher levels of

homesickness. The measure has strong internal consistency with an overall Cronbach's alpha of 0.94. For the individual factors, Cronbach's alphas are as follows: 0.90 for missing family, 0.85 for loneliness, 0.87 for missing friends, 0.88 for adjustment difficulties and 0.80 for ruminations about home. The overall Cronbach's alpha in the present study was 0.94. Homesickness has been correlated with other measures including adjustment to college life and depression, indicating construct validity (Stroebe et al., 2007).

Friendsickness Scale

The friendsickness scale, created by Paul and Brier (2001), was used to measure the level of friendsickness in students (See Appendix B). The measurements for the friendsickness questionnaire were developed from two focus group sessions where college freshman gave their definitions of friendsickness. Ten common themes emerged from the focus groups and each of the themes was developed into a question. All 10 common themes address the two main aspects of friendsickness: preoccupation, or a focus on pre-college relationships and keeping them intact; and concern, which involves worry about maintaining friendships back home and the future of pre-college friendship. Examples of statements about preoccupation are "I think often about my pre-college friends" or "I miss my friends from home." Statements such as "I feel guilty about not working hard enough to maintain my pre-college friendships" or "I spend a lot of time trying to maintain my pre-college friendships" address the issue of concern. The survey consists of 10 questions and is scored on a four-point scale, with one representing "not at all like me" and four representing "very much like me;" the higher the score a participant received on the survey, the more involved and concerned the participant was about pre-

college relationships. After conducting a pilot study, Paul and Brier (2001) reported a Cronbach's alpha of 0.83, indicating that the measure has strong internal consistency. The Cronbach's alpha for the present study was 0.82. Friendsickness has been shown to have construct validity through its correlations with other measures, such as loneliness and low self-esteem (Paul & Brier, 2001).

Facebook Scale

The Facebook measure used in this study has three components (See Appendix C). The first component is a Facebook intensity questionnaire developed by Ellison et al. (2007). The first two questions, which ask about number of Facebook friends and average time spent on Facebook, measure participants' engagement with Facebook activities. The next six questions assess participants' emotional attachment to Facebook as well as the way Facebook fits into their daily routine. Sample questions are as follows: "I feel out of touch when I haven't logged onto Facebook for a while" or "I am proud to tell people I'm on Facebook." The statements are rated on a five point scale with one representing "strongly disagree" and five representing "strongly agree;" the higher a participant scored, the higher their level of Facebook intensity. Ellison et al. (2007) reported strong internal consistency with a Cronbach's alpha of 0.83. The Cronbach's alpha in the present study was 0.81. In addition, Facebook intensity was found to have a positive correlation with self-esteem and satisfaction with life (Ellison et al., 2007).

The second component of the Facebook measure includes five questions, designed for this study, that focus on participants' primary reasons for using Facebook, the specific features of Facebook that they utilize as well as how Facebook is used to communicate with friends and family. Questions include "Why do you like Facebook,"

“The Facebook feature I use most is...” and “The primary way I communicate with my family when I am in college is...” For some of the questions participants filled in the blanks; for others, they had a list of items from which to choose.

The last component designed for this study specifically focuses on Facebook and its connection to homesickness and friendsickness. It includes 16 questions, nine focused on homesickness and seven focused on friendsickness. The Facebook and homesickness questions took Stroebe et al. (2002)’s five factors of homesickness (missing family, loneliness, missing friends, adjustment difficulties and ruminations about home) and extended them to Facebook. Sample questions are as follows: “Facebook keeps me from missing my family,” “Facebook relieves feeling of loneliness,” “Facebook makes me feel loved” or “Facebook helped me in adjusting to my new college environment.” The Cronbach’s alpha was 0.84. Similar to homesickness, the friendsickness and Facebook questions were developed around Paul and Brier (2001)’s two main components of friendsickness: a focus on pre-college friendships as well as keeping them intact. Sample questions are as follows: “Facebook helps me remain close with my pre-college friends,” “I spend a lot of time talking to my pre-college friends on Facebook,” “Facebook makes it easy to maintain pre-college friendships” or “Facebook reassures me that I will keep my high school friends intact.” The statements were rated on a five-point Likert scale with one representing “strongly disagree” and five representing “strongly agree;” higher scores indicate a higher level of reliance on Facebook as a coping strategy to deal with homesickness and friendsickness. The Cronbach’s alpha was 0.81.

Sense of Belonging Instrument

The Sense of Belonging Instrument was developed by Hagerty and Patusky (1995) to measure an individual's sense of belonging. The measure consists of two subscales, the SOBI-P (psychological) and SOBI-A (antecedents). SOBI-P includes 18 questions and assesses the extent to which individuals believe they fit into their environment and how needed or significant they feel in that environment. Sample statements are as follows: "I am just not sure if I fit in with my friends," "In general, I don't feel a part of the mainstream of society" or "I feel left out of things." SOBI-A includes 14 questions and assesses an individual's motivation and concern with creating a sense of belonging. This study, however, only used the SOBI-P because it was primarily concerned with an individual's current sense of belonging, not their desire to create one. Items are rated on a four-point Likert scale with one representing "strongly disagree" and four representing "strongly agree;" higher scores indicate a higher sense of belonging. Hagerty and Patusky (1995) reported a Cronbach's alpha of 0.93 for the SOBI-P and a test-retest reliability correlation of 0.84. Hagerty and Patusky (1995) have supported the construct validity of the scale by correlating it with other measures including loneliness and social support.

In this study, some of the SOBI-P statements were adapted to distinguish between a sense of belonging at home and a sense of belonging at college (See Appendix D). The statement from the SOBI-P "I am just not sure if I fit in with my friends," for example, was reformatted into two separate questions: "I am just not sure if I fit in with my pre-college friends" and "I am just not sure if I fit in with my college friends." The adapted SOBI-P contains 24 total questions with nine statements addressing a general sense of

belonging, eight statements addressing a sense of belonging at home and eight statements addressing a sense of belonging in college. The Cronbach's alpha for SOBI at home was only 0.55 (and was excluded from further data analysis) and the Cronbach's alpha for a SOBI in college was 0.79.

College Adjustment Scale

A 10-item adjustment to college index was used to assess freshmen's self-reported adjustment to school (See Appendix E). The measure was based on a scale created by Aspinwall and Taylor (1992) but was modified to better reflect the specific circumstances at the college where the present study took place. For example, the name of university where the original study took place was replaced with the general statement "small college or university" and one question that was only applicable to the university where the study was conducted was removed from the index. Two questions address the happiness of the freshmen as well as their happiness compared to other freshmen on campus. For example, "Compared to the average freshman, how happy do you think you are?" Five questions focus on their adjustment to the school, specifically focusing on academics and social situations. Questions include, "How well do you think you've adjusted socially to college" and "Overall, how well do you think you adjusted?" The last three questions address how well students believe they "belong" to their college as well as their satisfaction with the school. A sample question is "When you are on campus, how often do you wish you were somewhere else?" Items were scored on five-point scales (*e.g.*, 1 = *much less happy* to 5 = *much happier*) or seven point scales (*e.g.*, 1 = *not well at all* to 5 = *very well*); higher scores indicated better adjustment to college. Aspinwall and Taylor (1992) reported a Cronbach's alpha of 0.85 for their college

adjustment index. The Cronbach's alpha for the present study was 0.79. College adjustment has been shown to have construct validity through its correlations with other measures such as optimism and self-esteem (Apsinwall & Taylor, 1992).

Procedure

Participants completed a survey online that included the Utrecht Homesickness scale, the Friendsickness scale, the Facebook scale, the Sense of Belonging Instrument and the College Adjustment Index. Freshmen and sophomore students in the Introductory to Psychology participant pool signed up for the study using Sona Systems and received credit for completing the study. Additional participants, not in Introductory to Psychology, completed the survey on SurveyMonkey and did not receive any compensation or incentive for participating.

Results

The following are descriptive statistics to illustrate participants' use of Facebook. Participants reported an average of 527 Facebook friends ($SD = 312$) and they reported spending an average of 70 minutes ($SD = 63$) daily on Facebook. Their favorite activity on Facebook was wall posting, followed by looking at pictures. Fifty percent of the participants said that their primary use of Facebook was to keep in touch with friends from home, while only five participants said they kept in touch with family through Facebook. The primary medium for keeping in touch with family while at college was the telephone (71.7%) followed by email (10.4%) while the primary communication method for keeping in touch with pre-college friends was Facebook (48.1%) followed by text messaging (18.9%).

The remainder of the data consists of 102 participants' scores on the Friendsickness scale, Homesickness scale, Facebook Intensity Scale, Sense of Belonging Scale (in college) and College Adjustment Index. All means and standard deviations appear in Table 1.

I hypothesized that Facebook intensity would be correlated with lower levels of Friendsickness. No specific predictions were made about sense of belonging and friendsickness. The opposite of what I hypothesized was found. Friendsickness was positively correlated with Facebook intensity, $r(90) = 0.257, p < 0.001$. This was moderated by a student's sense of belonging in college. When participants had a high sense of belonging in college, friendsickness and Facebook intensity were not correlated, $r(42) = 0.311, p = 0.150$. When students had a low sense of belonging in college, friendsickness and Facebook intensity were positively correlated, $r(40) = 0.325, p = 0.031$.

My second hypothesis was that high levels of Facebook intensity would be correlated with high levels of homesickness, however, this would be moderated by a sense of belonging. If an individual has a high sense of belonging, homesickness may be reduced despite levels of Facebook intensity. Individuals with a low sense of belonging may experience even more homesickness. The hypothesis was partially supported; homesickness was marginally correlated with Facebook intensity, $r(89) = 0.196, p = 0.063$. This was also moderated by a sense of belonging in college. When participants had a high sense of belonging in college, homesickness and Facebook intensity were positively correlated, $r(46) = 0.402, p = 0.005$. When participants had a low sense of

belonging in college, homesickness and Facebook intensity were not correlated, $r(41) = 0.036, p = 0.816$.

Other results include: homesickness was negatively correlated with college adjustment, $r(86) = -0.542, p < 0.001$, but friendsickness and college adjustment were not significantly correlated, $r(87) = -0.141, p = 0.188$. When participants were split into freshmen and sophomores, however, a significant correlation was found. For freshmen college students, friendsickness and college adjustment were negatively correlated, $r(41) = -0.444, p = 0.003$. For sophomore students, there was no significant correlation, $r(44) = 0.038, p = 0.804$. In addition, a sense of belonging in college was negatively correlated with both friendsickness and homesickness ($r(86) = -0.310, p = 0.003$ and $r(85) = -0.568, p < 0.001$, respectively). Separate analysis by year did not yield significant results for any other variables.

Discussion

The purpose of this study was to investigate Facebook and its relationship to homesickness and friendsickness. Contrary to my hypothesis, Facebook intensity was positively correlated with friendsickness. I predicted that Facebook intensity would be correlated with lower levels of friendsickness because Facebook provides a way for college students to easily and frequently communicate with friends at home, reducing students' concern about loss of social connections at home. There are two possible explanations for Facebook intensity being correlated with higher levels of friendsickness. The first is that Facebook attracts people who are extremely friendsick. In other words, friendsick individuals, who feel the need to keep in contact with their high schools friends, are attracted to Facebook because its provides easily accessible communication

to their friends. The second is that using Facebook intensely makes people more friendsick. Facebook may give students an easy outlet to obsess about maintaining pre-established high school relationships. These students could become so attached to Facebook as a way to communicate with high school friends that they isolate themselves socially from their new environment, making it hard to adjust to college life. It is possible, however, that both phenomena are occurring and further research should be carried out to explore this relationship more fully.

Although no specific predictions were made about sense of belonging and friendsickness, results indicate that having a low sense of belonging is correlated with high levels of Facebook intensity. There are two possible explanations for this finding. The first is that college students who use Facebook intensely spend such extensive amounts of time on the website that they never develop a sense of belonging in college. It is also possible, however, that students who do not feel like they belong in college turn to Facebook as their social outlet.

It was also found that homesickness was marginally correlated with Facebook intensity. One possible explanation for finding only a marginal correlation is that Facebook may be used primarily to connect to friends, while homesickness is more associated with missing family. As the results indicated, very few participants used Facebook as a way to connect with their family and thus Facebook may not play as large a role in homesickness as it does in friendsickness. In addition, results showed that when students had a high sense of belonging in college, homesickness was correlated with higher levels of Facebook intensity and when students had a low sense of belonging in college, Facebook and homesickness were not correlated. This is the opposite of the

original hypothesis, which predicted for students with a high sense of belonging in college, levels of homesickness, despite Facebook intensity, may be reduced.

Homesickness levels, on the other hand, may become higher for individuals who have a low sense of belonging in college. No explanation for this result is immediately obvious or evident, indicating a need for follow-up for research.

A significant relationship was found between college adjustment and homesickness, with higher levels of homesickness related to lower levels of college adjustment. A similar relationship was found for college adjustment and friendsickness for freshmen, with higher friendsickness scores relating to lower college adjustment scores which supports the research of Paul and Brier (2001). Low sense of belonging in college was also correlated with higher levels of friendsickness and homesickness. The relationship between sense of belonging and homesickness supports the findings of Watt and Badger (2009). These results highlight the importance of researching friendsickness, homesickness and a sense of belonging during the transition to college. More research needs to be done on potential ways to reduce homesickness and friendsickness and fostering a sense of belonging in college in order for students to have a smooth adjustment to college.

College students primarily used Facebook as way to keep in touch with existing friends, which supports Ellison et al.'s (2007) findings. This suggests that Facebook is used as a way to accumulate maintained social capital. While Ellison et al. (2007) hypothesized that maintained social capital might serve as a buffer against friendsickness, the current study found that Facebook use was correlated with friendsickness. Further research should investigate whether using Facebook to create other types of social

capital, such as bonding social capital, would be more effective in reducing friendsickness. For example, an individual who primarily uses Facebook as a way to maintain an emotional, close relationship with their best friend in college (bonding capital) may be less prone to friendsickness. These individuals are not using Facebook as a way to “hold onto” old friends as they progress through life, but as a way to add depth and become more intimate with their new friends. In addition, Ellison et al. (2007), who also used a college sample, found that on average students spent 10 to 30 minute on Facebook a day and had between 150 and 200 friends. This current study had much higher averages (although it had a smaller sample size), with students spending, on average, 70 minutes daily on Facebook and having 500 friends. This significant increase in just two years might indicate that Facebook is still growing in numbers, popularity and importance, especially among college students.

There are several limitations to this study. First, there was a relatively small sample size of males. Joinson (2008) found that women use Facebook for social connections to a much a greater extent than men. It is possible that Facebook might have less of an effect on men’s levels of homesickness and friendsickness. The sample was also primarily white students and it is possible that different demographics use different means for communicating with friends. It is also impossible to determine causality and discover whether Facebook intensity increases friendsickness or friendsickness leads to more Facebook intensity. In addition, all the questionnaires involved in this study asked college freshmen and sophomores to reflect on their high school experience. Individuals may have had trouble remembering some of their experiences from high school and as a result their self-reporting may not be accurate. The sample may also have been skewed

because some participants were recruited through Facebook and it was not possible to look at differences between individuals recruited through Facebook and those recruited through Sona Systems. Individuals who were recruited through Facebook may tend to use Facebook more intensely than the rest of the college population and as a result, may be more prone to friendsickness.

Further studies might research what types of pre-college friends people are missing. For example, does it make a difference if students have a boyfriend or girlfriend at home or whether their best friends from home are from childhood or high school? As mentioned before, researchers should explore different types of social capital in relationship to Facebook, homesickness and friendsickness. Examining the effects of Facebook on students of different ages, such as high school students who travel abroad during the summer, may also lead to some interesting results. Investigating gender differences and uses of Facebook in relation to homesickness and friendsickness may also be interesting. Further investigation of a sense of belonging, homesickness and Facebook may help explain the unexpected finding that for students with a high sense of belonging, homesickness was correlated with higher levels of Facebook intensity. Devising an experiment to determine the causality of Facebook intensity and friendsickness would be valuable. For example, participants could interact on Facebook and then see if a state of friendsickness is induced. Lastly, further research should also be carried out to see if other forms of technology, such as google chat or skype, might be more effective in preventing friendsickness.

Study 2

Study 1 investigated Facebook and its relationship to college students' social experiences. It particularly focused on the associations between Facebook use and homesickness and friendsickness. Study 2 continued to explore the link between Facebook and college students' social experiences. The present study, however, focused on a very specific feature of Facebook, the Facebook status, and looked at different aspects of students' social experiences, particularly the personality characteristics shyness, loneliness and a sense of belonging.

The Facebook status is interesting to investigate because it is the most public form of expression on the website. The status allows individuals to post messages that everyone can view. Originally, the Facebook status was phrased as "X is" and Facebook users tended to post their feelings or what they were doing at the moment (for example, "Sally is hungry"). Recently, the Facebook status feature changed and now asks users "what's on your mind." As a result, the types of status messages posted have expanded to include quotations, worldwide news, song lyrics and links to other websites. In addition, friends can comment on individuals' statuses and also press the "like" button to indicate that they like what the person has posted. Lastly, every time an individual logs onto Facebook they are directly linked to the news feed, which highlights everything that is going on in that person's groups of friends. A prominent feature of the news feeds is friends' most recently updated statuses.

To date, researchers investigating Facebook have mainly focused on primary uses of the website, privacy concerns and Facebook's effect on student-teacher dynamics (Joinson, 2008; Dwyer & Hiltz, 2007; Hewit & Forte, 2006). Much less research has been

conducted on Facebook and personality traits. Ross (2009) looked at the five-factor model of personality and its association with Facebook. Results of the study indicated that there was not a strong correlation between Facebook use and the five factors of personality. Ross hypothesized that the five-factor model may have been too broad to predict Facebook use and he recommended that more specific personality characteristics, such as shyness, be tested in future research. The present study will extend Ross's research by looking at the personality traits of shyness, loneliness and sense of belonging and their relationship to the Facebook status. Loneliness and sense of belonging were chosen in addition to shyness because the three variables are highly interrelated. Shy people tend to be lonelier and loneliness is often sparked by a lack of sense of belonging (Jones, Rose & Russell, 1990; Heinrich & Gullone, 2006).

Shyness

Shy individuals are very self-conscious about being negatively viewed in social situations. Thus, shy individuals experience feelings of awkwardness, tension and discomfort when engaged in social situations, regardless of whether they are interacting with strangers or acquaintances. (Cheek & Buss, 1981). Shy individuals are also extremely self-focused and worried about how others perceive them. They will often rehearse what they might say in a conversation and then quickly abandon it because they think it is a boring or insignificant comment. Thus, shy people often remain quiet rather than risk social rejection (Saunders & Chester, 2008). In addition, shy individuals are also extremely concerned with self-presentation. Self-presentation is when individuals try to manage and manipulate their identity in social situations to make a good impression. Shy individuals are extremely determined to make a good impression but are not confident

that they will be able to do so. As a result, they engage in a cautious, “protective style of self-presentation” (Jackson, Fritch, Takeo & Gunderson, 2002).

Shy individuals tend to spend a significant amount of time on the Internet and studies have shown that shy individuals form better relationships online. Ward and Tracey (2004) found that individuals involved in online relationships tended to be shyer than those not involved in online relationships. They also found shy individuals to be more involved in online relationships, measured by satisfaction, number of friends and interpersonal competence, than in face-to-face interactions. In addition, shy individuals’ online relationships tend to develop more quickly and are more satisfying in comparison to non-shy individuals (Sheeks & Birchmeier, 2007). Orr Sasic, Ross, Simmering, Arseneault, and Orr (2009) actually studied the relationship between Facebook and shyness. The study found that even though shy individuals had fewer friends than non-shy individuals, they considered Facebook an excellent communication method and spent more time on it than non-shy individuals. Shy individuals appreciate the anonymity provided by Facebook even though they do not use every feature of the website, such as adding friends. Orr et al. (2009), however, did not investigate the Facebook status and they suggested that future researchers should explore the link between shyness and other facets of Facebook. The present study will extend the research on shyness and Facebook by specifically looking at the Facebook status.

I hypothesized that people who are shyer, although they would spend a significant amount of time on Facebook, would post fewer statuses compared to less shy people because they are more cautious about their self-presentation and do not want to risk social rejection. In addition, shyer individuals may feel some negative affect relative to less shy

people after viewing others' statuses because they would like to be more involved in social interaction.

Loneliness

Henreich and Gullone (2006) define loneliness as an “aversive state experienced when a discrepancy exists between the interpersonal relationships one wishes to have, and those that one perceives they currently have” (p. 698). There are two types of loneliness: emotional loneliness and social loneliness. Emotional loneliness involves feelings of restlessness and emptiness due to lack of intimate social relationships. Social loneliness entails feelings of boredom and marginality that arise when individuals do not feel that they have a sense of belonging to their group of friends or community.

Loneliness is distinct from being socially isolated or spending time alone. In fact, lonely individuals tend to spend as much time interacting with people as non-lonely individuals. However, lonely people tend to spend less time interacting with people whom they are intimate with and more time interacting with acquaintances and strangers (Henreich & Gullone, 2006).

Past studies of loneliness and the Internet have found both that frequent Internet users tend to be lonely and that lonely individuals tend to use the Internet more frequently (Engelberg & Sjoberg, 2004; Morahan-Martin & Schumacher, 2003). Lonely individuals are also more likely to use the Internet for emotional support than non-lonely people and feel more socially comfortable as well as display more appropriate social behavior online than in face-to-face interaction (Morahan-Martin & Schumacher, 2003). Since lonely individuals have an easier time interacting online, they tend to devote more and more time to the Internet. As a result, lonely individuals have a tendency to become addicted to

the Internet (Junghyun, Robert & Peng, 2009). Internet addiction occurs when an individual has trouble controlling their time on the Internet. This often results in negative life outcomes such as poor academic grades, missing school or work, or choosing to spend time on the Internet over social activities and engagements (Junghyun, Robert & Pang, 2009). It is interesting, however, that feelings of loneliness tend to increase after Internet use (Hu, 2009). No research thus far that has investigated Facebook and its relationship to loneliness.

In the present study, I hypothesized that lonelier individuals would post more statuses compared to less lonely people as a form of emotional support and that reading other individuals' statuses would make them feel even more lonely compared to less lonely people.

Sense of Belonging

A sense of belonging occurs when an individual believes that they are an active and important member of a particular environment or community (Hagerty, Lynch-Sauer, Bouwsema & Collier, 1992). A lack of sense of belonging is strongly associated with loneliness and depression (Hagerty et al., 1992; Choenarom, Williams & Hagerty, 2005). There is little research to date on Internet use or Facebook and its relationship to a sense of belonging. Study 1, however, found that a low sense of belonging was correlated with high levels of Facebook intensity, suggesting that people with a low sense of belonging spend a significant amount of time on Facebook. I hypothesized that people with a lower sense of belonging would post more statuses to try to foster a sense of belonging compared to individuals with a high sense of belonging. In addition, I predicted that people with a low sense of belonging would report experiencing negative affect after

reading friends' Facebook statuses, compared to people with a higher sense of belonging, because they will feel as if they are being excluded.

Method

Participants

Participants consisted of 114 students (19 freshmen (16.7%), 24 sophomores (21.1%), 7 juniors (6.1%) and 61 seniors (53.5%)) from small liberal arts colleges and universities across the United States. There were 94 female participants (82.5%) and 20 male participants (17.5%). Seventy-eight of the participants (68.4%) went to Macalester College and 97 of the participants were white (85.1%). Participants were recruited through Facebook and email.

Materials

Demographic Questions

Four questions about participants' demographics were used this study. The questions addressed participants' age, race, year in school and whether they attend Macalester College.

Facebook Status Questionnaire

Part I of this questionnaire includes seven questions that were used to gather demographic information about the Facebook status (See Appendix F). Questions asked individuals about how often they post statuses, what they post about and the content of their most recent status. Part II includes eleven questions that address various aspects of shyness, loneliness and sense of belonging in relation to the Facebook status. An example of a sample statement for shyness is as follows: "to what extent do you think people judge you based on your Facebook status." For loneliness, a sample questions is as

follows: “to what extent does posting Facebook statuses make you feel more connected to your friends.” A sample question addressing a sense of belonging is as follows: “To what extent does posting Facebook statuses make you feel like you belong to a community?” These questions are rated on five-point Likert scales. The anchor points on the Likert scale are different for each question, depending on how the question is phrased. Lastly, Part III addresses emotional responses to reading friends’ Facebook statuses. For example, “my typical emotional response to reading Facebook statuses is feeling sad.” The question is rated using a five-point Likert scale, with one representing “never” and five representing “all of the time.” The higher the score, the more negative affect an individual has in response to reading Facebook statuses.

Shyness Scale

Shyness was measured using the Revised Cheek and Buss Shyness Scale (Cheek, 1983). (See Appendix G.) The questionnaire includes thirteen questions addressing different facets of loneliness. A sample question is as follows, “I am often uncomfortable at parties and other social functions.” Questions are rated on a five-point Likert scale with one representing “very uncharacteristic or untrue” and five representing “very characteristic or true;” higher scores indicate a greater degree of shyness. Cheek (1983) reported a Cronbach’s alpha of 0.90 and a test-retest reliability of 0.88. In the current study, the RCBS had a Cronbach’s alpha of 0.85. The construct validity of RCBS scale has been supported by its correlations with the Social Avoidance and Distress Scale, the Social Resistance Scale and the Shy-Q (Cheek, 1983).

Loneliness Scale

The UCLA Loneliness scale developed by Russell (1996) measures an individual's degree of loneliness (See Appendix H). The scale consists of twenty questions, each beginning with the phrase, "How often do you feel." Eleven of the questions are worded negatively (lonely) and nine of the questions are worded positively (non-lonely). An example of a positive question is as follows: "How often do you feel that you have a lot in common with the people around you?" An example of a negative question is "How often do you feel that you are no longer close to anyone?" Items are rated on a four-point Likert scale with one representing "never" and four representing "always;" higher scores indicate a higher degree of loneliness. Russell (1996) reported a Cronbach's alpha ranging from 0.89 to 0.94 depending on the population and a test-retest reliability correlation of 0.73. In the current study, the Cronbach's alpha was 0.93. The construct validity of the UCLA Loneliness scale has been supported by its correlations with other related measures including self-esteem, social desirability, depression and personality traits including neuroticism and extraversion-introversion.

Sense of Belonging Instrument

The Sense of Belonging Instrument was developed by Hagerty and Patuskay (1995) to measure an individual's sense of belonging. The measure consists of two subscales, the SOBI-P (psychological) and SOBI-A (antecedents). SOBI-P includes 18 questions and assesses the extent to which individuals believe they fit into their environment and how needed or significant they feel in that environment (See Appendix D). Sample statements are as follows: "I am just not sure if I fit in with my friends," "In general, I don't feel a part of the mainstream of society" or "I feel left out of things."

Hagerty and Patusky (1995) reported a Cronbach's alpha of 0.93 for the SOBI-P and a test-retest reliability correlation of 0.84. In the current study, the Cronbach's alpha was 0.94. SOBI-A includes 14 questions and assesses an individual's motivation and concern with creating a sense of belonging (See Appendix J). A sample statement is as follows: "It is important to me that I am valued or accepted by others." Hagerty and Patusky (1995) reported a Cronbach's alpha of 0.76 for the SOBI-A and a test-retest reliability correlation of 0.66. In the current study, the Cronbach's alpha was 0.80. Items for the SOBI-P and SOBI-A are rated on four point Likert scales with one representing "strongly disagree" and four representing "strongly agree;" higher scores indicate a higher sense of belonging. Hagerty and Patusky (1995) have supported the construct validity of the SOBI by demonstrating its correlation with other measures including loneliness and social support.

Procedure

Participants completed a survey online on SurveyMonkey.com that included the four demographic questions, the Facebook status questionnaire, the RCBS, the UCLA loneliness scale and the Sense of Belonging Instrument.

Results

The following are descriptive statistics to illustrate participants' use of the Facebook status. Participants were most likely to post information about their daily activities (31.6%, 36 participants) followed by upcoming events (17.5%, 26 participants) and news (13.2%, 15 participants). Participants enjoyed reading Facebook statuses that involved daily activities (25.4%, 29 participants), news (21.1%, 24 participants) and feelings (14.9%, 17 participants). Example statuses include the following: "faced down a

squirrel and won, sort of” (daily activity), “Is going to Mac Con, as should the rest of her friends” (upcoming event), “Hooray health care! Does this mean Rush Limbaugh’s leaving the country? Please say yes” (news/opinion), “is still on Spring break, at least in her head” (feeling) and lastly, a link to a youtube clip on baby snow leopards (youtube/other clips). Facebook statuses were most commonly posted about once a week (22.8%, 26 participants) followed by more than once a week (21.9%, 25 participants). Fifty nine percent of participants (67 people) checked other people’s Facebook statuses daily and 21.9% of participants (25 people) checked Facebook statuses more than once a week.

The following was hypothesized: shy individuals would post few statuses compared to less shy individuals, lonelier individuals would post more statuses compared to less lonely individuals (as a way to generate emotional support) and individuals with a lower sense of belonging would post more statuses compared to individuals with a higher sense of belonging (to create a sense of belonging). No significant results were found when correlating the number of Facebook statuses posted with levels of loneliness, shyness and sense of belonging. The fact that no significant results were found suggests that measuring the number of statuses posted might not be the best way to assess people’s involvement with the Facebook status. As a result, I re-organized the data and combined nine questions to create the Facebook Connection measure, which is a broader measure of people’s connection and involvement with the Facebook status (see Appendix K). The Cronbach’s alpha for the Facebook Connection measure was 0.82. Higher scores on the Facebook Connection measure indicated more involvement and connection with the Facebook status. The Facebook Connection measure was positively correlated with

shyness ($r(108) = 0.433, p < 0.001$) and loneliness ($r(107) = 0.513, p < 0.001$). There was no significant correlation between the Facebook Connection measure and a sense of belonging. The Facebook Connection measure was also positively correlated with “being more open on Facebook compared to real life interactions” ($r(109) = 0.466, p < 0.0001$) and “compared to my friends, I post statuses more often” ($r(109) = 0.352, p < 0.001$).

It was also hypothesized that after reading Facebook statuses, individuals who tended to be shyer, lonelier and have a lower sense of belonging, would experience negative affect. I combined four negative feelings including lonely, sad, anxious and left out and created a Facebook Feel scale (See Appendix L). The Cronbach’s alpha was 0.85. Higher scores on the Facebook Feel scale indicate higher levels of negative affect after reading a Facebook status. The Facebook Feel scale was positively correlated with shyness ($r(108) = 0.433, p < 0.001$), loneliness ($r(107) = 0.513, p < 0.001$) and SOBI-P, which measures the extent to which individuals believe they fit into their environment ($r(107) = 0.409, p < 0.001$). There was no significant correlation between SOBI-A, which assesses an individual’s motivation to create a sense of belonging, and the Facebook Feel scale. I also reviewed each feeling individually in relation to shyness, loneliness and SOBI. See Table 2 for correlations.

In addition, shyness, loneliness and sense of belonging were significantly correlated with each other, which supports previous research. Shyness and loneliness were positively correlated, $r(104) = 0.642, p < 0.001$. Shyness and SOBI-A were negatively correlated ($r(108) = -0.313, p < 0.001$) and shyness and SOBI-P were positively correlated ($r(105) = 0.573, p < 0.001$). Similarly, loneliness and SOBI-A were

negatively correlated ($r(107) = -0.492, p < 0.001$) and loneliness and SOBI-P were positively correlated ($r(104) = 0.758, p < 0.001$).

Discussion

The purpose of this study was to explore the relationship between the Facebook status and the personality characteristics shyness, loneliness and a sense of belonging. Contrary to my hypothesis, the number of Facebook statuses posted was not significantly related to the three personality characteristics. However, when a broader measure of connection with the Facebook status (the Facebook Connection scale) was examined, significant relationships emerged. Higher levels of Facebook connection were correlated with higher levels of shyness and loneliness. There are two possible explanations for this finding. The first is that shyer and lonelier people gravitate to Facebook and as a result tend to be more connected to Facebook. Since shy individuals struggle and feel awkward in social situations, they may feel more comfortable interacting on Facebook than in face-to-face situations (Cheek & Buss, 1981). As a result, individuals may become reliant on Facebook as a way to create social connections. Lonely individuals have trouble connecting and forming intimate relationships as well as finding emotional support (Heinrich & Gullone, 2006). Consequently, lonely individuals may turn to Facebook because they use it as way to find emotional support and relieve their loneliness. It is also possible, however, that the causality is reversed and that as individuals become more connected to Facebook their shyness and loneliness increase as a result. Because these individuals are so connected to Facebook, they spend significant amounts of time on the website. As a result, they do not feel as comfortable socializing in “face-to-face” situations and do not make as many social connections which leads to further shyness and

loneliness. Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, and Scherlis (1998), for example, found that greater use of the Internet led to a decline in individuals' communication with family members, a decline in the size of their social circle and an increase in loneliness and depression. In addition, lonely individuals are not necessarily alone, but feel that there is something missing from their social interactions. Facebook may not be able to create the deep intimate, social relationships that lonely individuals seek and as a result, it makes them feel lonelier. Further research should explore the causal relationship between the Facebook connection and shyness and loneliness.

The finding that a sense of belonging was not significantly related to the Facebook connection is interesting. The Facebook community is so large, with more than 400 million users, that people may not feel that they are a vital part of the community. Although Facebook is a social website, individuals may focus primarily on their own profiles and do not think about the fact that they belong to a wider Facebook community.

Supporting my hypothesis, the data suggested that reading Facebook statuses were associated with negative affect (sad, lonely, anxious and left-out) in people who were shyer, lonelier and had a lower sense of belonging. Shy individuals, after reading Facebook statuses, were possibly reminded of their shyness and wished that they could be more open and involved in the community. For lonely individuals, Facebook statuses, especially if they are reading about their friends being involved in events without them, may emphasize that they lack deep, intimate social connections. After reading Facebook statuses about other people's daily lives and activities, individuals with a low sense of belonging may feel even more like they do not belong to any particular community. In addition, if shy and lonely individuals feel more connected to Facebook and it is their

only social connection, they may take the website more seriously than other Facebook users. If they see something on Facebook that they do not agree with, for example, or they are not invited to a particular event, they may feel more negative about it than those who use the website for fun and procrastination. Further research could explore why shy, lonelier and lower sense of belonging individuals experience more negative affect. This is particularly important so that the negative affect associated with Facebook can be prevented.

Several limitations may constrain the generalizability of this study. Most participants were women and it has been found that women use Facebook more as a tool for social connection than men (Joiner, 2008). Men may not feel as connected to Facebook as women and as a result, the same relationship between Facebook connection and loneliness, shyness and SOBI would not be found. Also, the majority of the sample was college seniors who have likely used Facebook for longer and may be more connected to Facebook than younger students. The sample also included primarily white college students and different demographics may feel differently about and use Facebook in a different ways. The direction of causality, or whether higher levels of Facebook connection make individuals more shy and lonely or whether shy and lonelier individuals tend to be more connected to Facebook, is impossible to determine within this study. The Facebook questions also asked individuals to reflect back upon their Facebook experience. Students may not have remembered or were reporting their thoughts and feelings inaccurately. Conducting an interactive experiment where individuals interact on Facebook and then report their feelings might be more accurate than having college students retroactively report their feelings. Lastly, participants were recruited through

Facebook, which could skew the sample. As of 2005, 85% of college students had a Facebook account, suggesting that most college students do use the website and that a researcher would have a good chance of recruiting a randomly distributed sample of college students. Although they may have an account, some of the individuals included in the 85% may not actually use Facebook very often. Thus, students who actually responded to the Facebook invitation to take the survey may spend more time on Facebook and be more attached to Facebook than the general college population. In the future, it might be better to recruit individuals in additional ways, such as by email.

Further studies should try to determine the causality between Facebook connection and loneliness and shyness. If the causality can be determined than effective prevention methods can be created. This study focused specifically on Facebook statuses and shyness and loneliness, making the results hard to generalize to all aspects of Facebook. Thus, researchers should continue to explore different aspects of Facebook, such as wall posting or number of friends, and its relationship to shyness and loneliness to see if the same pattern is found throughout all aspects of the website. In addition, the current two studies have determined that Facebook is associated with some negative effects on college students' social experiences, particularly shyness, loneliness and friendsickness. The next step is to investigate more serious negative effects of Facebook on college students, such as the relationship between Facebook and depression. Future research might also want to explore the positive side of Facebook, as past studies have documented ways Facebook might help college students. Ellison et al. (2007), for example, found that Facebook can increase bonding, bridging and maintained social capital while Ross et al. (2009) suggested that shy individuals feel that Facebook is an

effective way for them to communicate with others. As a result, researcher could look at more positive aspects of Facebook and see what patterns emerge, such as, investigating happy and confident individuals and their experiences on Facebook and whether Facebook can generate more positive emotions, such as enjoyment and satisfaction with life. If Facebook can generate positive emotions and experiences, college students should take advantage of this easily accessible tool. However, if Facebook has negative effects on college students, then it may be harmful that the website is so easily accessible. In addition, future Facebook studies should expand beyond the college demographic and determine the relationship between Facebook and personality for high school students or for middle-aged individuals (30-50), which is the fastest growing demographic on Facebook (Corbett, 2009).

General Discussion

Overall, college students primarily used Facebook as a way to keep in contact with high school friends. They spent a significant amount of time on Facebook (70 minutes daily) and had about 500 friends. This is a big jump from statistics reported in 2007, where college students tended to spend 10 to 30 minutes on Facebook daily and had on average, 150 to 200 friends (Ellison, et al. 2007). This suggests that Facebook is continuing to grow in popularity and importance to the college demographic.

Despite its growing popularity, however, these two studies concluded that Facebook has negative associations with college students' social experiences. Facebook intensity was correlated with higher levels of friendsickness and a deeper connection to the Facebook status was associated with higher levels of loneliness and shyness. In addition, individuals who were shyer, lonelier and had a lower sense of belonging

experienced more negative affect (sad, lonely, left-out and anxious) as a result of their Facebook interactions. In general, the more intensely individuals used Facebook and the more connected they were to Facebook, the more negative effects they experienced.

Future research needs to determine the causality between Facebook use and the negative social experiences. If Facebook is causing both increases in friendsickness, loneliness and shyness in college students this would suggest that Facebook is not effective in fostering or maintaining deep, intimate relationships but leaves people feeling unconnected and alone. One reason why people may feel lonely, shy and friendsick after going on Facebook is that after interacting on the website, they are forced to return to 'real' college life where their Facebook connections do not exist. Shy lonely and friendsick individuals may also be spending so much time on Facebook, that they never create new relationships in college. As results, these individuals should be encouraged to spend less time on Facebook and more time interacting with friends face-to-face.

If shyer, lonelier and more friendsick individuals tend to be drawn to Facebook, then measures could be taken to help these individuals create more meaningful real-world interactions. Shy, lonely and friendsick individuals may feel that they have no connections in college and turn to Facebook as their social outlet. As a result, friendsick, lonely and shy individuals' could try to reduce their time on Facebook and get more involved in college life by joining student organizations or activities. For friendsick individuals, getting involved in campus activities would help them build a new set of friends and they would no longer need to rely on their high school friends. By participating in college events, shy individuals might be encouraged to come out of their shells. Lastly, lonely individuals might be able to find an activity they are passionate

about and be able to form more intimate connections with people involved in the same activity.

Facebook, founded in 2004, is not a fad that is dying out; in fact, it is continuing to grow and become more popular. Every demographic, from high school student to business executive, is becoming involved with the website. As a result, more research needs to be conducted on why Facebook remains popular and the effect of its growing popularity, particularly on demographics other than college students. Research is especially key if Facebook has negative effects on its users. Beyond Facebook, the world of social networking is a huge phenomenon and it is estimated that there will be about 250,000 social networking sites by the end of 2010 (Swartz, 2008). These websites include everything from eHarmony (online dating) to Avatars United (online games) to Athlinks (runners and swimmers) to DailyBooth (photo blogging website) to CafeMom (mothers). More research needs to be done on the world of social networking and how these websites are affecting individuals' day-to-day lives and whether these websites harm or help create intimate social relationships.

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Table 1

Means (and standard deviations) from Friendsickness, Homesickness, SOBI , Facebook Intensity and College Adjustment Scales

| | Mean (SD) |
|---------------------------|---------------|
| Friendsickness Scale | 24.17 (5.59) |
| Homesickness Scale | 48.45 (15.63) |
| Facebook Intensity | 21.80 (4.38) |
| Sense of Belonging (SOBI) | 25.31 (4.57) |
| College Adjustment Scale | 45.30 (7.51) |

Table 2

Correlations between Negative affect, loneliness, shyness and SOBI after reading Facebook statuses

| Negative Affect SOBI-P | Loneliness | Shyness | SOBI-A | |
|---------------------------|------------|---------|--------|------|
| Anxious | .267** | .242* | .058 | .168 |
| Lonely | .499** | .427** | -.699 | |
| .432** | | | | |
| Left Out | .465** | .387** | .003 | |
| .391** | | | | |
| Sad | .471** | .367** | -.111 | |
| .353** | | | | |

* significant at the 0.05 level

** significant at the 0.01 level

Appendix A
Utrecht Homesickness Scale (Stroebe et al. 2002)

Using the following scale, could you please indicate to what extent you have experienced the following in the past four weeks:

1. Not at all
2. Weak
3. Moderate
4. Strong
5. Very strong

1. Missing your parents
2. Missing your family
3. Missing home
4. Feeling missed by your family
5. Feeling lonely
6. Feeling unloved
7. Feeling isolated from the rest of the world
8. Feeling uprooted
9. Longing for acquaintances
10. Searching for familiar faces
11. Missing people whom you can trust and can talk with
12. Missing your friends
13. Finding it difficult adjusting to a new situation
14. Feeling uncomfortable in a new situation
15. Feeling lost in a new situation
16. Having difficulties get using to new customs
17. Having thoughts that an old situation was better than here and now
18. Regretting the decision to leave an old situation
19. Continuously having thoughts about home
20. Repeatedly thinking of the past

Note: From “Homesickness Among Students in Two Cultures: Antecedents and Consequences,” by M. Stroebe, T. Van Vliet, M. Hewstone and H. Willis, 2002, *British Journal of Psychology*, 93, 147-168.

Appendix B
Friendsickness Scale (Paul & Brier, 2001)

Using the following scale, please tell us how you feel about your pre-college friendships:

- 1 = Not at all like me
- 2 = Somewhat unlike me
- 3 = Somewhat like me
- 4 = Very much like me

1. I miss my friends from home.
2. I will always remain close with my pre-college friends.
3. I feel my friends from home aren't trying hard enough to maintain our friendship.
4. I think often about my friends from home.
5. I'm trying to remain the same person I was in high school so that my pre-college friendships will continue.
6. I spend a lot of time trying to maintain my pre-college friendships.
7. I have sensed some changes in my pre-college friendships so I have been trying extra hard to stay close to them.
8. When I have free time, I spend it on my pre-college friendships (either writing, phoning, or getting together with them).
9. I bring up pre-college friends in conversations with friends at college (e.g., making comparisons, relating anecdotes, etc.).
10. I feel guilty about not working hard enough to maintain my pre-college friendships.

Note: From "Friendsickness in the Transition to College: Precollege Predictors and College Adjustment Correlates," by E.L. Paul and S. Brier, 2001, *Journal of Counseling and Development*, 79, p. 77-89.

Appendix C Facebook Scale

I. Facebook Intensity (Ellison et al., 2007)

- a. About how many total Facebook friends do you have? (FILL IN BLANK)
 - b. In the past week, on average, approximately how many minutes per day have you spent on Facebook? (FILL IN BLANK)
 - c. Facebook is part of my everyday activity
 - d. I am proud to tell people I'm on Facebook.
 - e. Facebook has become part of my daily routine.
 - f. I feel out of touch when I haven't logged onto Facebook for a while.
 - g. I feel I am part of the Facebook community.
 - h. I would be sorry if Facebook shut down.
- (1 = strongly disagree, 2= disagree, 3= neutral, 4= agree, 5 = strongly agree)

Note: From "The Benefit of Facebook 'Friends': Social Capital and College Student's Use of Online Social Network Sites," by N.B. Ellison, C. Steinfield and C. Lampe, 2007, *Journal of Computer-Mediated Communication*, 12, 1143-1186.

II. Specific Use of Facebook

- a. Why do you like Facebook?
 - i. It is how I communicate with my current friends.
 - ii. It provides a distraction from schoolwork.
 - iii. It allows me to communicate with people from back home
 - iv. It allows me to collect information on people I am interested in.
 - v. It provides me with information (e.g. in groups)
 - vi. Other
- b. The primary reason I use Facebook is (FILL IN THE BLANK)
- c. The Facebook feature I use most is (FILL IN THE BLANK)
- d. The primary way I communicate with my friends at home while I am at college is:
 - i. Phone
 - ii. Text messaging
 - iii. Email
 - iv. Ichat, Google chat, Skype, etc.
 - v. Facebook
 - vi. Other online social networking sites
 - vii. Other
- e. The primary way I communicate with my family when I am at college is:
 - i. Phone

- ii. Text messaging
- iii. Email
- iv. Ichat, Google chat, Skype, etc.
- v. Facebook
- vi. Other online social networking sites
- vii. Other

Note: Developed for study.

III. Homesickness and Friendsickness

Homesickness

- a. Facebook keeps me from missing my family.
- b. Facebook relieves feelings of loneliness.
- c. Facebook helps me feel more comfortable in my college environment.
- d. Facebook makes me less isolated from friends and family back home.
- e. Facebook makes me feel loved.
- f. Facebook prevents me from continually thinking about home.
- g. I feel like I belong in my Facebook community.
- h. Facebook makes me feel like I still belong at home.
- i. Facebook helped me in adjusting to my new college environment.
- j. Facebook keeps me from missing my parents.
- k. Facebook relieves feelings of longing for my pre-college friends.

Friendsickness

- l. Facebook provides a way for me to stay connected with my friends back home.
- m. Facebook helps me remain close with my pre-college friends.
- n. I miss my pre-college less when I use Facebook.
- o. I spend a lot of time talking to pre-college friends on Facebook.
- p. Facebook makes it easy to maintain pre-college friendships.
- q. Facebook provides a way for me not to feel as if I am abandoning my pre-college friends.
- r. Facebook reassures me that I will keep my pre-college friendships intact.
(1 = strongly disagree, 5 = strongly agree)

Note: Adapted from “Friendsickness in the Transition to College: Precollege Predictors and College Adjustment Correlates,” by E.L. Paul and S. Brier, 2001, *Journal of Counseling and Development*, 79, 147-168. Also adapted from “Homesickness Among Students in Two Cultures: Antecedents and Consequences,” by M. Stroebe, T. Van Vliet, M. Hewstone and H. Willis, 2002, *British Journal of Psychology*, 93, 77-89.

Appendix D
Sense of Belonging-Psychological State, Home, College and General
Hagerty & Patusky (1995)

General

1. I often wonder if there is anyplace on earth where I really fit in.
2. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.
3. I would like to make a difference to people or things around me, but I don't feel what I have to offer is valued.
4. I feel like an outsider in most situations.
5. I am troubled by feeling like I have no place in this world.
6. In general, I don't feel a part of the mainstream of society.
7. I feel like I observe life rather than participate in it.
8. I feel like a square peg trying to fit into a round hole.
9. I don't feel that there is anyplace where I really fit in this world.

Home

10. I am just not sure if I fit in with my pre-college friends.
11. I generally feel that people accept me at home.
12. I could disappear for days and it wouldn't matter to my family.
13. I am uncomfortable that my background and experiences are so different from those who are usually around me at home.
14. I could not see or call my pre-college friends for day and it wouldn't matter to them.
15. I feel left out of things at home.
16. I am not valued by or important to my pre-college friends.
17. If I died tomorrow, very few people from home would come to my funeral.

College

18. I am just not sure if I fit in with my college friends.
19. I would describe myself as a misfit in most social situations in college.
20. I generally feel that people accept me in college.
21. I am uncomfortable that my background and experiences are so different from those who are usually around me in college.
22. I could not call or see my college friends for days and it wouldn't matter to them.
23. I feel left out of things in college.
24. I am not valued by or important to college friends.
25. If I died tomorrow, very few people from college would come to my funeral.

Note: Adapted from "Developing a Measure of a Sense of Belonging," by B.M.K Hagerty and K. Patusky, 1995, *Nursing Research*, 44, 9-13.

Appendix E
Adjustment to College Index (Aspinwall & Taylor, 1992)

1. Compared to the average freshman and sophomore at your university/college, how happy do you think you are? (1= much less happy; 3 = about the same; 5 = much happier)
2. How well do you think you've adjusted academically to your university/college? (1 = not well at all; 5 = very well)
3. How well do you think you've adjusted socially to your university/college? (1 = not well at all; 5 = very well)
4. How well do you feel you have adjusted to being away from your family? (1 = not well at all; 5 = very well)
5. Overall, how well do you think you've adjusted to your university/college? (1 = not well at all; 5 = very well)
6. Compared to the average freshman or sophomore at your university/college, how would you rate your overall adjustment? (1 = much worse; 3 = about the same; 5 = much better)
7. In general, how satisfied or dissatisfied are you with the university/college you attend? (1 = very satisfied; 3 = neither; 5 = very dissatisfied)
8. How often do you feel like you belong at your university/college? (1 = always; 3 = sometimes; 5 = never)
9. When you are on campus, how often do you wish you were somewhere else? (1 = always; 3 = sometimes; 5 = never)
10. How happy are you at your university/college? (1 = very unhappy; 7 = very happy)

Scoring Information:

Items # 6 and #7 are reverse scored so that higher scores indicate greater adjustment to college. Items are simply summed.

Note: From "Modeling cognitive adaptation: A Longitudinal Investigation of the Impact of Individual Differences and Coping on College Adjustment," by L.G. Aspinwall and S.E. Taylor, 1992, *Journal of Personality and Social Psychology*, 63, 989-1003.

Appendix F
Facebook Questionnaire

Part I

1. If you can remember, what was the last status you posted?

2. How often (approximately) do you check other people's statuses?

Daily

More than once a week

Once a week

Once every two weeks

Once a month

Less than once a month

Never

3. How often (approximately) do you post a Facebook status?

Daily

More than once a week

Once a week

Once every two weeks

Once a month

Less than once a month

Never

4. What are you most likely to post about? (select one)

News

Your Daily activities

Your Feelings

Quotations/song lyrics

Upcoming events

Future Goals

Youtube (or other) clips

Stating opinions

Other:

5. What status topics do you like reading about the best? (select one)

News

Daily activities

Feelings

Quotations/song lyrics

Upcoming events

Future Goals

Youtube (or other) clips

Stating opinions

Other:

6. Do you clear your Facebook status intentionally?

Never, rarely sometimes, often

7. Do you tag people in your Facebook statuses?

Never, rarely, sometimes, always

Part II

1. Compared to real life interactions, on Facebook I am...

Extremely open, open, about the same, closed, extremely closed

2. Compared to my friends, I post statuses

Much more often, somewhat more often, about the same, somewhat less often, much less often

3. How often does reading Facebook statuses make you feel more connected to your friends?

Never, rarely, sometimes, often, very often

4. How often do you spend time reading other people's statuses?

Never, rarely, sometimes, often, very often

5. How often are you actually interested in what other people post?

Never, rarely, sometimes, often, very often

6. How often do you use Facebook statuses as a way to reach out to other people?

Never, rarely, sometimes, often, very often

7. How often do you think your status represents who you really are?

Never, rarely, sometimes, often, very often

8. How often do you put a lot of thought into your Facebook status?

Never, rarely, sometimes, often, very often

9. How often do you think people judge you based on your Facebook status?

Never, rarely, sometimes, often, very often

10. How often does posting a Facebook status make you feel like you belong to a community?

Never, rarely, sometimes, often, very often

11. How often does reading Facebook statuses make you feel like you belong to a community?

Never, rarely, sometimes, often, very often

Part III

1. My typical emotional response to reading Facebook statuses is...

Feeling happy

Never, not very often, sometimes, a lot of time, all of the time

Feeling anxious

Never, not very often, sometimes, a lot of the time, all of the time

Feeling lonely

Never, not very often, sometimes, a lot of the time, all of the time

Feeling left out

Never, not very often, sometimes, a lot of the time, all of the time

Feeling sad

Never, not very often, sometimes, a lot of the time, all of the time

Note: Developed for study.

Appendix G
Cheek, J.M. (1983). RCBS

INSTRUCTIONS: Please read each item carefully and decide to what extent it is characteristic of your feelings and behavior. Fill in the blank next to each item by choosing a number from the scale printed below.

1 = Very uncharacteristic or untrue, strongly disagree

2 = Uncharacteristic

3 = Neutral

4 = Characteristic

5 = Very characteristic or true, strongly agree

1. I feel tense when I'm with people I don't know well.
2. I am socially somewhat awkward.
3. I do not find it difficult to ask other people for information.
4. I am often uncomfortable at parties and other social functions.
5. When in a group of people, I have trouble thinking of the right things to talk about.
6. It does not take me long to overcome my shyness in new situations.
7. It is hard for me to act natural when I am meeting new people.
8. I feel nervous when speaking to someone in authority.
9. I have no doubts about my social competence.
10. I have trouble looking someone right in the eye.
11. I feel inhibited in social situations.
12. I do not find it hard to talk to strangers.
13. I am more shy with members of the opposite sex.

Items 3, 6, 9 & 12 are reversed, recode before scoring. (1=5) (2=4) (4=2) (5=1)

Note: From The Revised Cheek and Buss Shyness Scale (RCBS) by J.M. Cheek, 1983, Unpublished manuscript, Wellesley College, Wellesley, MA.

Appendix H

UCLA Loneliness Scale (Russell, 1996)

| <u>NEVER</u> | <u>RARELY</u> | <u>SOMETIMES</u> | <u>ALWAYS</u> |
|--------------|---|------------------|---------------|
| 1 | 2 | 3 | 4 |
| *1. | How often do you feel that you are "in tune" with the people around you? | _____ | |
| 2. | How often do you feel that you lack companionship? | _____ | |
| 3. | How often do you feel that there is no one you can turn to? | _____ | |
| 4. | How often do you feel alone? | _____ | |
| *5. | How often do you feel part of a group of friends? | _____ | |
| *6. | How often do you feel that you have a lot in common with the people around you? | _____ | |
| 7. | How often do you feel that you are no longer close to anyone? | _____ | |
| 8. | How often do you feel that your interests and ideas are not shared by those around you? | _____ | |
| *9. | How often do you feel outgoing and friendly? | _____ | |
| *10. | How often do you feel close to people? | _____ | |
| 11. | How often do you feel left out? | _____ | |
| 12. | How often do you feel that your relationships with others are not meaningful? | _____ | |
| 13. | How often do you feel that no one really knows you well? | _____ | |
| 14. | How often do you feel isolated from others? | _____ | |
| *15. | How often do you feel you can find companionship when you want it? | _____ | |
| *16. | How often do you feel that there are people who really understand you? | _____ | |
| 17. | How often do you feel shy? | _____ | |
| 18. | How often do you feel that people are around you but not with you? | _____ | |
| *19. | How often do you feel that there are people you can talk to? | _____ | |
| *20. | How often do you feel that there are people you can turn to? | _____ | |

Scoring:

Items that are asterisked should be reversed (i.e., 1 = 4, 2 = 3, 3 = 2, 4 = 1), and the scores for each item then summed together. Higher scores indicate greater degrees of loneliness.

Note: From UCLA Loneliness Scale (Version 3): Reliability, Validity and Factor Structure, by D.W. Russell, 1996, *Journal of Personality Assessment*, 66, 20-40.

Appendix I
Sense of Belonging: Hagerty and Patusky (1995)

SENSE OF BELONGING INSTRUMENT
Psychological Experience
SOBI-P

Instructions: Here are some statements with which you may or may not agree. Using the key listed below, circle the number that most closely reflects your feelings about each statement.

KEY:
1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|---|----------------------|----------|-------|-------------------|
| 1. I often wonder if there is anyplace on earth where I really fit in. | 1 | 2 | 3 | 4 |
| 2. I am just not sure if I fit in with my friends. | 1 | 2 | 3 | 4 |
| 3. I would describe myself as a misfit in most social situations. | 1 | 2 | 3 | 4 |
| 4. I generally feel that people accept me. | 1 | 2 | 3 | 4 |
| 5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle. | 1 | 2 | 3 | 4 |
| 6. I would like to make a difference to people or things around me, but I don't feel that what I have to offer is valued. | 1 | 2 | 3 | 4 |
| 7. I feel like an outsider in most situations. | 1 | 2 | 3 | 4 |
| 8. I am troubled by feeling like I have no place in this world. | 1 | 2 | 3 | 4 |
| 9. I could disappear for days and it wouldn't matter to my family. | 1 | 2 | 3 | 4 |
| 10. In general, I don't feel a part of the mainstream of society. | 1 | 2 | 3 | 4 |
| 11. I feel like I observe life rather than participate in it. | 1 | 2 | 3 | 4 |
| 12. If I died tomorrow, very few people would come to my funeral. | 1 | 2 | 3 | 4 |
| 13. I feel like a square peg trying to fit into a round hole. | 1 | 2 | 3 | 4 |
| 14. I don't feel that there is anyplace where I really fit in this world. | 1 | 2 | 3 | 4 |
| 15. I am uncomfortable that my background and experiences are so different from those who are usually around me. | 1 | 2 | 3 | 4 |
| 16. I could not see or call my friends for days and it wouldn't matter to them. | 1 | 2 | 3 | 4 |
| 17. I feel left out of things. | 1 | 2 | 3 | 4 |
| 18. I am not valued by or important to my friends. | 1 | 2 | 3 | 4 |

Note: From "Developing a Measure of a Sense of Belonging," by B.M.K Hagerty Hagerty and K. Patusky, 1995, *Nursing Research*, 44, 9-13.

Appendix J
Sense of Belonging-Antecedents: Hagerty and Putskey (1995)

SENSE OF BELONGING INSTRUMENT
Antecedents
SOBI-A

Instructions: Here are some statements with which you may or may not agree. Using the key listed below, circle the number that most closely reflects your feelings about each statement.

KEY:
1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

| | Strongly Disagree | Disagree | Agree | Strongly Agree |
|--|----------------------|----------|-------|-------------------|
| 1. It is important to me that I am valued or accepted by others. | 1 | 2 | 3 | 4 |
| 2. In the past, I have felt valued and important to others. | 1 | 2 | 3 | 4 |
| 3. It is important to me that I fit somewhere in this world. | 1 | 2 | 3 | 4 |
| 4. I have qualities that can be important to others. | 1 | 2 | 3 | 4 |
| 5. I am working on fitting in better with those around me. | 1 | 2 | 3 | 4 |
| 6. I want to be a part of things going on around me. | 1 | 2 | 3 | 4 |
| 7. It is important to me that my thoughts and opinions are valued. | 1 | 2 | 3 | 4 |
| 8. Generally, other people recognize my strengths and good points. | 1 | 2 | 3 | 4 |
| 9. I can make myself fit in anywhere. | 1 | 2 | 3 | 4 |
| 10. All of my life I have wanted to feel like I really belonged somewhere. | 1 | 2 | 3 | 4 |
| 11. Fitting in with people around me matters a great deal. | 1 | 2 | 3 | 4 |
| 12. I feel badly if others do not value or accept me. | 1 | 2 | 3 | 4 |
| 13. Relationships take too much energy for me. | 1 | 2 | 3 | 4 |
| 14. I just don't feel like getting involved with people. | 1 | 2 | 3 | 4 |

Note: From "Developing a Measure of a Sense of Belonging," by B.M.K Hagerty Hagerty and K. Patusky, 1995, *Nursing Research*, 44, 9- 13.

Appendix K
Facebook Connection Scale

1. How often does reading Facebook statuses make you feel more connected to your friends?

Never, rarely, sometimes, often, very often

2. How often do you spend time reading other people's statuses?

Never, rarely, sometimes, often, very often

3. How often are you actually interested in what other people post?

Never, rarely, sometimes, often, very often

4. How often do you use Facebook statuses as a way to reach out to other people?

Never, rarely, sometimes, often, very often

5. How often do you think your status represents who you really are?

Never, rarely, sometimes, often, very often

6. How often do you put a lot of thought into your Facebook status?

Never, rarely, sometimes, often, very often

7. How often do you think people judge you based on your Facebook status?

Never, rarely, sometimes, often, very often

8. How often does posting a Facebook status make you feel like you belong to a community?

Never, rarely, sometimes, often, very often

9. How often does reading Facebook statuses make you feel like you belong to a community?

Never, rarely, sometimes, often, very often

Note: Developed for study.

Appendix L
Facebook Feel Scale

My typical emotional response to reading Facebook statuses is...

1. Feeling anxious

Never, not very often, sometimes, a lot of the time, all of the time

2. Feeling lonely

Never, not very often, sometimes, a lot of the time, all of the time

3. Feeling left out

Never, not very often, sometimes, a lot of the time, all of the time

4. Feeling sad

Never, not very often, sometimes, a lot of the time, all of the time

Note: Developed for study.

* All measures were used with permission of the authors.

